

IN THE CLAIMS:

Please cancel claims 2-4 and 9 without prejudice or disclaimer.

1. (Amended) A method of delivering a nucleic acid of interest to a primary human chondrocyte, comprising:
providing a recombinant chimeric adenovirus having a tropism for primary human chondrocytes,
said recombinant chimeric adenovirus comprising:
a nucleic acid of interest operatively linked to a promoter;
a deletion in a gene encoding a fiber protein; and
a nucleic acid replacing the deletion in the gene of the fiber protein, said nucleic acid
encoding at least a part of a fiber protein of a B-type adenovirus;
wherein said at least a part of the fiber protein of the B-type adenovirus has a tropism for
primary human chondrocytes; and
infecting a primary human chondrocyte with said recombinant chimeric adenovirus, such that
said nucleic acid of interest is delivered to said primary human chondrocyte.

2-4. Canceled

5. (Amended) The method of claim 4 1, wherein said ~~fiber protein is derived from~~
an B-type adenovirus is adenovirus type 16, 35 and/or 51.

6. (Amended) The method of claim 2 1, wherein said recombinant chimeric
adenovirus comprises an adenovirus 5 nucleic acid sequence.

7. (Amended) The method of claim 5, wherein said recombinant chimeric
adenovirus comprises an adenovirus 5 genome.

8. (Amended) The method of claim 2 1, wherein said recombinant chimeric adenovirus comprises at least one deletion in the E3 region where a the nucleic acid of interest is inserted or can be inserted.

9. Canceled

10. (Amended) The method of claim 1, wherein said nucleic acid of interest encodes:
at least one amino acid sequence that inhibits cartilage disease progression; ~~and/or~~
at least one amino acid sequence that counteracts the loss if of cartilage; or
a combination thereof.

11. (Amended) The method of claim 1, wherein said nucleic acid ~~sequence~~ of interest encodes at least one member of the family of bone morphogenesis proteins.

12-23. Previously canceled

24. (Twice amended) Chondrocytes provided with an additional nucleic acid encoding:
at least one amino acid sequence that inhibits cartilage disease progression; ~~and/or~~
at least one amino acid sequence that counteracts the loss of cartilage; or
a combination thereof;

said additional nucleic acid ~~being~~ provided by a gene delivery vehicle comprising a recombinant
chimeric adenovirus having a tropism for chondrocytes;
said recombinant chimeric adenovirus comprising:

a deletion in a gene encoding a fiber protein; and

a nucleic acid replacing the deletion in the gene encoding the fiber protein, said nucleic acid encoding at least a part of a fiber protein of a B-type adenovirus;

wherein said at least a part of the fiber protein of the B-type adenovirus has a tropism for primary human chondrocytes.

25. (Original) The chondrocytes of claim 24 wherein said additional nucleic acid encodes at least one member of the family of bone morphogenesis proteins.

26. Previously canceled

27. (Amended) A method of inhibiting cartilage disease progression comprising:
preparing a recombinant chimeric adenovirus having a tropism for primary human chondrocytes,
said recombinant chimeric adenovirus including:
a nucleic acid of interest encoding a protein useful in inhibiting cartilage disease
progression operatively linked to a promoter;
a deletion in a gene encoding a fiber protein; and
a nucleic acid replacing the deletion in the gene encoding the fiber protein, said nucleic
acid encoding at least a part of a fiber protein of a B-type adenovirus;
wherein said at least a part of the fiber protein of the B-type adenovirus has a tropism for
primary human chondrocytes; and
infecting a primary human chondrocyte with said recombinant chimeric adenovirus, such that
said nucleic acid ~~of interest~~ encoding the protein useful in inhibiting cartilage disease
progression is expressed in said primary human chondrocyte, inhibiting cartilage disease
progression.

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28. (Amended) A method of repairing cartilage comprising:
preparing a recombinant chimeric adenovirus having a tropism for primary human chondrocytes,
said recombinant chimeric adenovirus including:
a nucleic acid ~~of interest~~ encoding a protein useful in repairing cartilage operatively
linked to a promoter;
a deletion in a gene encoding a fiber protein; and
a nucleic acid replacing the deletion in the gene encoding the fiber protein, said nucleic
acid encoding at least a part of a fiber protein of a B-type adenovirus;
wherein said at least a part of the fiber protein of the B-type adenovirus has a tropism for
primary human chondrocytes; and
infecting a primary human chondrocyte with said recombinant adenovirus, such that said nucleic
acid ~~of interest~~ encoding the protein useful in repairing cartilage is expressed in said
primary human chondrocyte, effecting the cartilage repair.